TECHNICAL REVIEW DOCUMENT
For
Significant Permit Modification to
OPERATING PERMIT 95OPLR064

to be issued to:

Anheuser Busch, Inc.
Larimer County
Source ID 0690060

Cathy Rhodes
November, 2001

I. PURPOSE:

This document will establish the basis for decisions made regarding the applicable requirements, emissions factors, monitoring plan and compliance status of emission units covered by the operating permit proposed for this site. It is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. This narrative is intended only as an adjunct for the reviewer and has no legal standing. The conclusions made in this report are based on information provided in the original application submittal of September 28, 2001 and subsequent additional information submittals.

Any revisions made to the underlying construction permits associated with this facility in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. SOURCE DESCRIPTION:

This facility produces beer. The plant is divided into Areas of operation as described under "Emission Sources'" below. Brewery wastewater is piped to Nutriturf, Inc., a subsidiary of Anheuser-Busch, for land application in Weld County. The Nutri-turf facility and the Brewery are considered to be a single source for Prevention of Significant Deterioration requirement purposes.

This facility is located in Fort Collins, Larimer County, Colorado. The area is classified as attainment for all pollutants. Wyoming is an affected state within 50 miles of the facility. There are two Federal Class I areas within 100 kilometers of the facility: Rocky Mountain National Park and Rawah National Wilderness Area.

III. Project Description

The permittee plans to expand the Fort Collins brewing operations to increase production to 13.5 million barrels per year from 6.8 million barrels per year. The expansion will involve installation of a new boiler, new grains handling equipment, upgrades to existing grains handling and brewing equipment, addition of new brewing and packaging equipment, and expansion of the land farm for treatment of increased wastewater (see Operating Permit 98OPWE208).

The expansion will result in an increase in VOC emissions which are subject to Prevention of Significant Deterioration requirements, as discussed below. This expansion represents a significant operating permit modification, subject to public notice and EPA review. The expansion is being processed as a combined construction/operating permit. PSD applicable requirements are incorporated directly into the operating permit, as described under "Purpose," above.

IV. Emission Factor Sources

Grain handling PM emissions based on engineering judgement and 99.7% bagfilter control
VOC emissions from brewing based on: "Characterization of Fermentation Emissions from California Breweries," October 26,1983; engineering judgement; Coors Test Results, March 3, 1993; "Stationary Source Sampling Report – Anheuser-Busch Brewery, Fort Collins, Colorado, July, 1994;
Combustion Emissions: AP-42
Wastewater Pumping Station: Summary Report on Diagnostic Testing, October 29, 1992
Alcohol Distillation: AP-42 Section 4.7

V. Sources of Emissions

VOC emissions result from brewery equipment, wastewater treatment, and ethanol distillation/recovery. Combustion emissions result from use of natural gas and fuel oil in the boilers. PM emissions occur from grain handling.

VI. Throughputs

13.5 million barrels beer/year
867,240 mmbtu/year fuel for Boiler #5

VII. Summary of Emissions

Pollutant	PTE After Modification (TPY)	Actual Emissions (1999/2000) (TPY)	Net Emission Increase (TPY)	PSD/NSR Significant Level
VOC	449.4	200.9 (-)	253.5	40
PM	18.1	3.2	14.9	25
PM_{10}	18.1	3.2	14.9	15
SO_2	22.1	0	22.1	40
NO_x	23.7	0	23.7	40
CO	36.4	0	36.4	100

Potential and Actual emissions do not include emissions from the four existing boilers. The existing boilers are not being modified for this project. Please see Operating Permit, Section II, Condition 8 for potential emissions from the existing boilers.

VIII. Proposed Controls & Efficiency

Grain handling: Bagfilters at 99.7%

Pollution Prevention and efficient operation and ethanol distillation/recovery (Best Available Control Technology for VOC emissions)

IX. Regulatory Requirements

New applicable requirements added due to this project are as follows:

Area 2 – Grain Handling

Regulation No. 1 and 6 opacity limits are added for Grain Handling #2 activities. Since BACT does not apply, these opacity limits can not be streamlined out for these new activities.

Emission and throughput limits are added for the new grain handling equipment.

Emission and throughput limits are revised for existing Grain Handling #1 equipment.

Regulation No. 1 and 6 PM emission limits are streamlined out because the emission limits incorporated into this permit are more stringent.

Area 7 – Schoene and Finishing

Sources from this area were not covered in the previous operating permit. Some finishing tanks were listed as insignificant activities. Applicable requirements include throughput and emission limits and BACT requirements.

Area 9 – Utilities – Boilers

Emission and throughput limits are added for the new, fifth boiler.

The new boiler is subject to the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units, Subpart Dc (Note: The applicant requested that the daily fuel requirement be changed to monthly. The Division can not modify the Federal regulation, therefore the daily requirement remains.)

Regulation No. 1 and 6 opacity limits are added. Since BACT does not apply, these opacity limits can not be streamlined out for the new boiler.
Regulation No. 1 and 6 PM fuel burning equipment emission limits are streamlined out because the emission limits incorporated into this permit are more stringent.
Note: Short term emission limits are not included for the new boiler, because the permittee submitted modeling analyses which indicate emissions from the boiler will not cause or contribute to an exceedance of the NAAQS.

Facility-Wide
Throughput and emission limits are revised throughout the permit to reflect increased production. Reporting requirements for construction of new and modification of existing equipment are added. Post-construction ambient (ozone) monitoring provisions are added.

X. Modeling Results
The permittee submitted screening modeling results which indicate the maximum NOx, SO_2, and CO impacts from the proposed modification are below the modeling significance levels. Therefore, for these pollutants, the proposed modification will not cause or contribute to an exceedance of the ambient air quality standards. Emissions from existing sources were not included in the analysis for these pollutants. Modeling for ozone impacts is not required under the Division's Modeling Guidance. For PM_{10}, the following impacts occur:

Pollutant	Averaging Time	Modification Impact	Background Concentration	Total Impact	NAAQS
PM_{10}	24-hour	16.5 µg/m^3	44 µg/m^3	60.5 µg/m^3	150 µg/m^3
	Annual	3.3 µg/m^3	20µg/m^3	23.3 µg/m^3	50 µg/m^3

The modeling indicates that the proposed modification will not cause or contribute to an exceedance of the PM_{10} NAAQS. (The PM modeling includes emissions from all sources, not just the proposed modification.) Because the permittee has demonstrated compliance with the short term PM_{10} NAAQS, short term emission limits for PM_{10} and short term production limits for PM_{10} emitting sources are deleted from the operating permit, per the Division's short term limit policy.

XI. Prevention of Significant Deterioration (PSD) Analysis

This source (which includes the Nutri-turf landfarm site) is classified as a major stationary source for PSD purposes. The VOC emissions increase due to the project is 253.5 tons/year, which is above PSD significant level of 40 tons/year, therefore VOC emissions due to this modification are subject to PSD requirements. Increases of other criteria

pollutants are below significant increase thresholds, thus PSD review does not apply to any other pollutant.

Best Available Control Technology (BACT)

The Division determined BACT for VOC sources to be pollution prevention and efficient operating practices for the brewery sources. In addition, a distillation process recovers ethanol from several process waste streams. VOC outlet concentrations are too dilute and/or cannot be effectively captured for add-on control equipment to be cost effective. See the Technical Review Document for the BACT determination for the wastewater landfarm.

Two determinations are listed in the EPA's RACT/BACT/LAER Clearinghouse database: Coors Brewing Company in Elkton, VA and Miller Brewing Company in Butler OH. The Division reviewed the Operating Permits for these sources. The Ohio facility was subject to LAER and emission offsets. No controls or control methods are listed in the permit. The Coors Brewing facility requires pollution prevention and efficient operation as BACT.

Pre-Construction Monitoring
The Division has determined that the use of existing representative air quality data meets this requirement, as allowed in Regulation No. 3, Part B, IV.D.3(a)(iii)(D).

Post-Construction Monitoring
The PSD regulations (Regulation No. 3, Part B, IV.D.3(a)(iv)) require post construction ozone monitoring. The Division has determined that ozone monitoring during the ozone season (March 1 through October 1) is sufficient. This period represents those months when ozone levels are most likely to be elevated.

Ambient Air Quality Impact
Division guidance does not require modeling for VOC (ozone) impacts from this modification. Emission increases for other pollutants are below the PSD significant increase thresholds, therefore no modeling other than the screening modeling (see discussion, above) is required.

Additional Impact Analysis
For each pollutant for which a significant increase in emissions will occur, the permittee must provide an analysis of impairment to visibility, water, soils, and vegetation that would occur as a result of the emissions from the source and general commercial, residential, industrial, and other growth associated with the modification. In addition, an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial and other growth associated with the modification is required.

No impacts as a result of commercial, residential, industrial or other growth associated with

this modification are expected. In addition, no adverse impacts to visibility, water or soil are expected from the VOC emissions.

The permittee submitted a vegetation impacts analysis. The Division concurs that the data suggests that impacts will not adversely affect commercial or recreational vegetation.

Class I Areas - Air Quality Related Values (AQRVs)

The Division notified the National Park Service and United States Forest Service regarding these VOC emission increases. Preliminary review indicates the Federal Land Managers (FLMs) do not expect the emissions to adversely affect Air Quality Related Values. The FLMs will have an opportunity to fully review the PSD application and analyses during the public notice period.

The Division has determined that no adverse impacts to AQRVs will occur as a result of this modification.

XII. Compliance Assurance Monitoring (CAM)

A significant operating permit modification triggers CAM review for modified permits, however, no emission points affected by this permit modification use a control device to achieve compliance with an emission limit or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. Therefore, no points at this facility are subject to the provisions of the CAM program as set forth in 40 CFR Apart 64 as adopted by reference into Colorado Regulation No. 3, Part C, Section XIV.